

Date: Wednesday, 25/03/2009 12:58:46 PM
 User: Jean-Luc Menard

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : STUD
 Job Number : 46699
 Estimate Number : 13229
 P.O. Number :
 This Issue : 25/03/2009 S.O. No. :
 Prsht Rev. : NC Part Number : D36887
 First Issue : 11 Type : MACHINED PARTS Drawing Number : D3688 REV B
 Previous Run : 46055 Drawing Revision : B
 Written By : JLM 09.03.25 Material :
 Due Date : 01/04/2009 Qty: 12 Um: Each
 Checked & Approved By :
 Comment : Rev:A New Issue 08-01-29 JLM Verified By:EC
 Est Rev:B Material Change 09-01-07 JLM Verified By:EC
 Est Rev:C Added note on Step 2 09-01-26 JLM Verified By:EC

NOT (5)

Additional Product

Job Number:



Seq. #:

Machine Or Operation:

Description :

1.0

M174PHI-H900R1000

17-4PH SS ROUND BAR 1.00 COND.900



Comment: Qty.: 1.1414 f(s)/Unit Total: 13.6962 f(s)
 17-4PH SS ROUND BAR 1.00 ***CONDITION H900****
 BATCH: M111055 SA 09/03/25 13.7 ft

2.0

BAND SAW

BAND SAW



Comment: BAND SAW
 DO NOT USE CHOP SAW*
 Cut blank 9.724" long

SA 09/03/25

(12)

3.0

DOOSAN LATHE

DOOSAN LATHE



Comment: DOOSAN LATHE
 1-Turn as per Folio FA729 Rev: N/A & Dwg D3688 Rev: B

2-Deburr per dwg D3688

JLM 09/03/29

(12)

4.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

JLM 09/03/29

(12)

5.0

LATHE CONV.

CONVENTIONAL LATHE



Comment: CONVENTIONAL LATHE

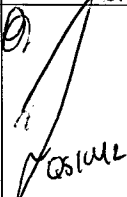
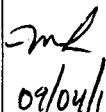
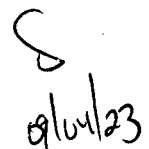
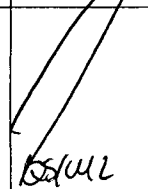
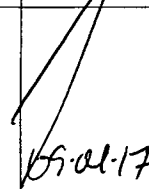
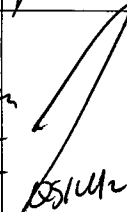
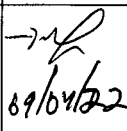
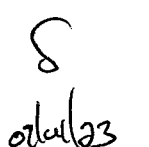
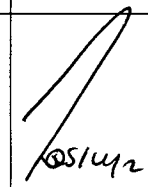
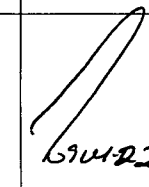
Face to finished length as per dwg D3688 AND center drill as per Dwg D3688

JLM 09/03/30

(12)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3688-7 PAR #: N/A Fault Category: Prod / Machined Parts NCR: Yes No DQA: D Date: 09/05/05
 Resolution: Scrap Disposition: QA: N/C Closed: D Date: 09/05/06

NCR: 46699		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
09.04.17	3	(Qty 7) Have chatter ON THREADS. R.e: Process		SCRAP PARTS. 4/9.04.17 Qty 7 PROBLEM SOLVED BY REDUCING LENGTH OF MAT'L STICKING OUT OF CHUCK NO REPLACEMENT.	 09/04/17	 09/04/23	 09/04/17	 09/04/17
09.04.22	3.	1 D3688-1-2 B46051 was scrap during the thread inspection by machining. Uppeel the above to 7. The 2 extra seized in the buckle & broke the threads.		Scrap? destroy as well. - parts were thoroughly inspected for this type of issue.	 09/04/22	 09/04/23	 09/04/22	 09/04/22
		R.e: Chatter on threads & chipped off in the threads						

NOTE: Date & initial all entries

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: STUD

Job Number: 46699

Part Number: D36887

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

ml 09/03/30

(12)

7.0

DOOSAN LATHE

DOOSAN LATHE



Comment: Doosan Lathe

1- Turn as per Folio FA718 Rev: *11/4* & Dwg D3688 Rev: *B*

(PTO)

2-Deburr per dwg D3688

ml 09/03/30

(5)

8.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

ml 09/03/30

(5)

9.0

QC8

SECOND CHECK



Comment: SECOND CHECK

88 09/04/23

(5)

10.0

PG

PURCHASING



Comment: PURCHASING

Issue P/O: *8713*
LPI Per ASTM 1417 LEVEL 2
Certificate of conformaty is required

C209105104

(5)

11.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage
Ensure certificate of conformity is attached

16 4/5/01

(5)

12.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

(5)

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: STUD

Job Number: 46699

Part Number: D36887

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

ST125

8809105/04 (X5)

14.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

09105/05

Job Completion



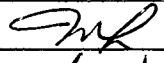
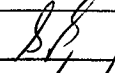
MF 09-0504

DART AEROSPACE LTD		Work Order: 46699
Description: STUD		Part Number: D3688-7
Inspection Dwg: D3688 Rev: B		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

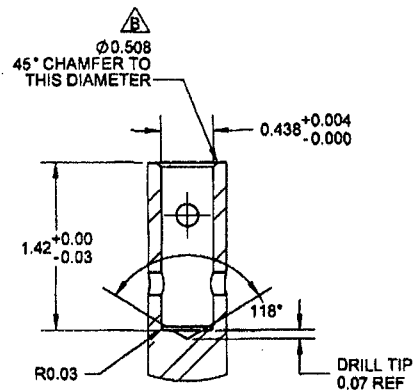
☒ First Article
 ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.42	+ .000 - .030	1.415	—			
Ø.508	+ .010 - .000	.573	—			
.438	+ .004 - .000	.440	—			
1.025	+ .000 - .010	1.020	—			
Ø.659	+ .000 - .015	.656	—			
Ø.189	+ .005 - .001	Ø.190	—			
2.90	+ .030	2.930	—			
Ø75 X 45°	+ .010	Ø70 X 45°	—			
R.030	+ .030	R.030	—			
9.624	+ .015	9.623	—			
.445	+ .000 - .010	.440	—			
Ø.189	+ .005 - .000	Ø.190	—			
3/4-16 UNF-2A	.7485-.7391	.7435	—			
M.O.W.	.7737-.7687	.773	—			

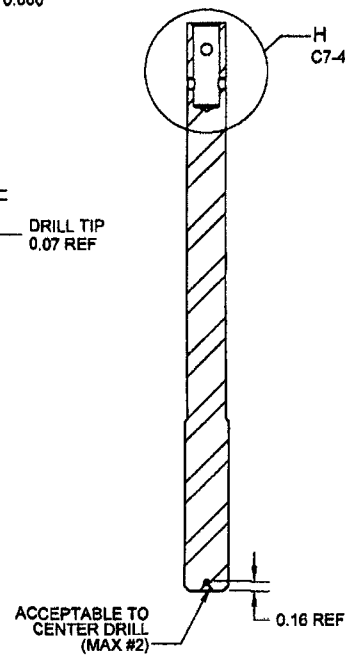
Measured by: 	Audited by: 	Prototype Approval:	N/A
Date: 09/03/30	Date: 09/04/24	Date:	N/A

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	





DETAIL H
SCALE 2X
D6-4



SECTION G-G
D4-4

D3688-7 STUD

- NOTES:**
- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5843 H-900 CONDITION
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 0.97 lb
 - 8) LPI PER ASTM 1417 LEVEL 2

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	RF	D3688	SHEET 4 OF 4
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	STUD	NTS
DATE	08.11.24	COPYRIGHT © 2008 BY DART AEROSPACE LTD	
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UNDER REVIEW
08/12/10 MJD
CHANGE CENTER
DRILL TO #4

RELEASE
08/12/10 MJD

46699



LIQUID PENETRANT TEST REPORT

P- 14938

CLIENT	<u>DART Aerospace</u>	DATE	<u>MAY 1-2007</u>	PAGE	<u>1</u>	OF	<u>1</u>
ATTENTION	<u>LINDA</u>	ACUREN JOB NO.	<u>108-09-001387</u>	TIME	AM <input checked="" type="checkbox"/>	PM <input type="checkbox"/>	
ADDRESS	<u>1270 ABERDEEN</u> <u>HAWKESBURY, ONT.</u> <u>K6A 1K7</u>	PO/NO NO.	<u>8713</u>	WORK LOCATION	<u>PLANT</u>		
PROJECT	<u>F.P.I.</u>	ACCEPTANCE STD.	<u>ASTM 1417</u>	REV./DATE	<u>2007</u>		
ITEM(S) EXAMINED	<u>MACHINED PARTS AND CROSS TUBES</u>						

JOB DESCRIPTION	PROCEDURE NO. LT-XXXX REV./DATE	TECHNIQUE NO. LT-XXXX-XXX REV./DATE
PART NO.		MATERIAL <u>STAINLESS</u> THICKNESS
SCOPE	<u>100% EXTERNAL</u> <u>EXAMINATION</u> <u>AND ALUBINE ALUMINUM X-TUBES</u>	

TEST DETAILS	
METHOD <input checked="" type="checkbox"/> FLUORESCENT <input type="checkbox"/> VISIBLE	<input checked="" type="checkbox"/> WATER WASH <input type="checkbox"/> SOLVENT REMOVABLE <input type="checkbox"/> POST EMULSIFIED
FAMILY BRAND <u>MAGNAFLUX</u>	BLACK LIGHT S/N <u>IPES</u> <input checked="" type="checkbox"/> OUTPUT > 1000 μ W/cm ² <input type="checkbox"/> AMBIENT < 2 fc
PENETRANT <u>EL 67</u> MINIMUM DWELL TIME <u>45</u> MIN.	LIGHTING EQUIP. <input type="checkbox"/> FLASHLIGHT <input type="checkbox"/> TROUBLELIGHT <input type="checkbox"/> OUTPUT > 100 fc @ SURFACE
PENETRANT REMOVER <u>H2O</u> MINIMUM DRY TIME <u>>10</u> MIN.	OTHER <u>LABINO</u>
DEVELOPER <u>SKD 52</u> MINIMUM DWELL TIME <u>10</u> MIN.	LIGHT METER S/N
DEVELOPER TYPE <input checked="" type="checkbox"/> NON AQUEOUS <input type="checkbox"/> AQUEOUS <input type="checkbox"/> DRY	CAL DUE DATE <u>FEB 2010</u>

TEST SURFACE	
SURFACE CONDITION <input type="checkbox"/> AS GROUND <input type="checkbox"/> AS WELDED <input type="checkbox"/> MACHINED <input type="checkbox"/> SHOT BLASTED <input type="checkbox"/> CLEAN BARE METAL	
SURFACE TEMPERATURE <input type="checkbox"/> < -4°C/ 20°F <input type="checkbox"/> -4°C/ 20°F TO 10°C/50°F <input type="checkbox"/> 10°C/50°F TO 52°C/125°F <input type="checkbox"/> > 52°C/125°F	

RESULTS- (<input type="checkbox"/> METRIC <input type="checkbox"/> IMPERIAL)																																					
<table border="1"><thead><tr><th>ITEM NO.</th><th>DESCRIPTION</th><th>ACCEPTED</th><th>REJECT</th></tr></thead><tbody><tr><td><u>46760</u></td><td><u>- 8 PCS</u></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td><u>46761</u></td><td><u>- 9 PCS</u></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td><u>47284</u></td><td><u>- 1 PC</u></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td><u>47283</u></td><td><u>- 1 PC</u></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td><u>47155</u></td><td><u>- 1 PC</u></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td><u>47156</u></td><td><u>- 1 PC</u></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td><u>47371</u></td><td><u>- 1 PC</u></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td><u>46699</u></td><td><u>- 1 PC</u></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr></tbody></table> <p><u>ALL ITEMS EXAMINED WERE FOUND ACCEPTABLE</u></p>	ITEM NO.	DESCRIPTION	ACCEPTED	REJECT	<u>46760</u>	<u>- 8 PCS</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>46761</u>	<u>- 9 PCS</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>47284</u>	<u>- 1 PC</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>47283</u>	<u>- 1 PC</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>47155</u>	<u>- 1 PC</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>47156</u>	<u>- 1 PC</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>47371</u>	<u>- 1 PC</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>46699</u>	<u>- 1 PC</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p><u>09 05 04</u></p>
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Scope of Services
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SIGNATURES	
CLIENT REPRESENTATIVE <u>Jason Munkach</u>	DTR # <u>E-27911</u>
TECHNICIAN (SIGNATURE): <u>[Signature]</u>	REPORT REVIEWED BY:
NAME (PRINT): <u>Mike Johnson</u>	NAME INITIALS
1 ST TECHNICIAN CGSB LEVEL <u>II</u> SNT LEVEL CGSB REG. NO. <u>6000</u>	2 ND TECHNICIAN CGSB LEVEL SNT LEVEL CGSB REG. NO.